

I claim:

1. A remote data processing and storage device for wireless, two-way data transfer communication with one or more data exchange infrastructure devices comprising;

5 a housing;

a power supply disposed within said housing;

a microprocessor in electrical communication with said power supply and disposed within said housing;

10 a data memory storage unit in electrical communication with said power supply and disposed within said housing;

a transmitter and receiver assembly in electrical communication with said microprocessor and said power supply, said transmitter and receiver assembly being disposed within said housing for electronic wireless communication with one or more data exchange infrastructure devices; and

15 a virtual interface preprogrammed in said microprocessor with a protocol for seeking, detecting and establishing two-way data exchange communication with at least one data exchange infrastructure device.

2. A remote data processing and storage device according to claim 1 and
20 further comprising a security arrangement to enhance data security.

3. A remote data processing and storage device according to claim 2 wherein said a security arrangement includes a data encrypting and decrypting arrangement.

4. A remote data processing and storage device according to claim 2 wherein said security arrangement includes a data verification arrangement.

5 5. A remote data processing and storage device according to claim 1 wherein said remote data processing and storage device is configured to reject any incoming connection and to thereby initiate all data connections for data exchange.

6. A remote data processing and storage device according to claim 1 wherein
10 said remote data processing and storage device is configured for operation in an environment including two or more remote data processing and storage devices.

7. A remote data processing and storage device according to claim 1 wherein said remote data processing and storage device is configured to accept signals from
15 multiple data exchange infrastructure devices.

8. A remote data processing and storage device according to claim 1 wherein said remote data processing and storage device is configured to recognize predetermined data stream structures and encode the data stream for more efficient transmission.

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9. A remote data processing and storage device according to claim 8 wherein said remote data processing and storage device interacts with a programmable channel in

a data exchange infrastructure device to encode the data stream for more efficient transmission.

10. A remote data processing and storage device according to claim 1
5 wherein said remote data processing and storage device is configured to define an execution environment to prevent access to any remote data processing and storage device resources except the data exchange stream and a predetermined amount of storage space.

10 11. A remote data processing and storage device according to claim 1 wherein said remote data processing and storage device is configured to insure that any received input information originated with an intended data exchange infrastructure device.

12. A remote data processing and storage device according to claim 1 wherein
15 said transmitter and receiver assembly is configured for operation within variable, predetermined ranges.

13. A data exchange infrastructure device for wireless, two-way data transfer communication with a remote data processing and storage device comprising:

20 a housing;

a power supply;

a memory for data storage disposed within said housing and in electrical communication with said power supply;

a transmitter and receiver assembly disposed within said housing and in electrical communication with said power supply for electronic wireless data exchange;

an interface assembly in electrical communication with said power supply and disposed within said housing in electrical communication with said transmitter and receiver assembly, and preprogrammed for announcing a protocol directed to any remote data processing and storage devices within a predetermined range around said data exchange infrastructure device, being detected thereby and establishing two-way data exchange communication therewith.

10 14. A data exchange infrastructure device according to claim 13 wherein said data exchange infrastructure device provides data exchange access for said remote data processing and storage device to an infrastructure device selected from a group consisting of equipment in the nature of a display, a keyboard, an audio device, a joystick, a haptic device, a tablet, and a mouse.

15 15. A data exchange infrastructure device according to claim 13 and further comprising a security arrangement to enhance data security.

 16. A data exchange infrastructure device according to claim 15 wherein said
20 security arrangement includes an arrangement for data encryption and decryption.

 17. A data exchange infrastructure device according to claim 15 wherein said security arrangement includes an arrangement for data verification.

18. A data exchange infrastructure device according to claim 13 wherein said data exchange infrastructure device is configured for operation in an environment including two or more remote data processing and storage devices.

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19. A data exchange infrastructure device according to claim 13 wherein said data exchange infrastructure device is configured to accept signals from multiple remote data processing and storage devices.

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20. A data exchange infrastructure device according to claim 13 wherein said data exchange infrastructure device includes a programmable channel for interaction with a remote data processing and storage device to encode the data stream for more efficient transmission.

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21. A data exchange infrastructure device according to claim 13 wherein said data exchange infrastructure device is configured to define an execution environment to prevent access to any data exchange infrastructure device resources except the data exchange stream and a predetermined amount of storage space.

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22. A data exchange infrastructure device according to claim 13 wherein said data exchange infrastructure device is configured to direct data exchange signals from one or more remote data processing and storage devices among a plurality of infrastructure devices.

23. A data exchange infrastructure device according to claim 13 wherein said data exchange infrastructure device is configured to recognize signal details associated with an infrastructure device and to process said details in order to present a uniform interface signal for use by a remote data processing and storage device.

24. A system for remote data exchange and processing among computing devices comprising:

at least one remote data processing and storage device for two-way, wireless communication with said one or more data exchange infrastructure devices including;

a first housing;

a first power supply disposed within said remote data processing and storage device housing;

a first microprocessor in electrical communication with said first power supply and disposed within said first housing;

a first data memory storage unit in electrical communication with said first power supply and disposed within said first housing;

a first transmitter and receiver assembly in electrical communication with said power supply and disposed within said first housing for electronic two-way wireless communication with one or more data exchange infrastructure devices; and

a virtual interface preprogrammed in said first microprocessor with a protocol for seeking, detecting and establishing two-way data exchange communication with at least one data exchange infrastructure device; and

one or more data exchange infrastructure devices, each said data exchange
5 infrastructure device including;

a second housing;

a second power supply;

a second memory for data storage disposed within said second housing and in electrical communication with said second power supply;

10 a second transmitter and receiver assembly disposed within said housing and in electrical communication with said second power supply for electronic, two-way wireless data transfer; and

an interface assembly in electrical communication with said power supply and disposed within said housing in electrical communication with said
15 transmitter and receiver assembly, and preprogrammed for announcing its presence within a predetermined range using a protocol, being detected and establishing two-way data exchange communication.

20 25. A system for remote data exchange and processing among computing devices according to claim 24 and further comprising a security arrangement to enhance data security.

26. A system for remote data exchange and processing among computing devices according to claim 25 wherein said security arrangement includes an arrangement for data encryption and decryption.

5 27. A system for remote data exchange and processing among computing devices according to claim 24 wherein said security arrangement includes an arrangement for data verification.

10 28. A system for remote data exchange and processing among computing devices according to claim 24 wherein said remote data processing and storage device is configured to reject any incoming connection and to thereby initiate all data connections for data exchange.

15 29. A system for remote data exchange and processing among computing devices according to claim 24 wherein said remote data processing and storage device is configured for operation in an environment including two or more remote data processing and storage devices.

20 30. A system for remote data exchange and processing among computing devices according to claim 24 wherein said remote data processing and storage device is configured to accept signals from multiple data exchange infrastructure devices.

31. A system for remote data exchange and processing among computing devices according to claim 24 wherein said remote data processing and storage device is configured to recognize predetermined data stream structures and encode the data stream for more efficient transmission.

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32. A system for remote data exchange and processing among computing devices according to claim 24 wherein said data exchange infrastructure device includes a programmable channel for interaction with a remote data processing and storage device to encode the data stream for more efficient transmission.

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33. A system for remote data exchange and processing among computing devices according to claim 32 wherein said remote data processing and storage device interacts with said programmable channel in a data exchange infrastructure device to encode the data stream for more efficient transmission.

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34. A system for remote data exchange and processing among computing devices according to claim 24 wherein said remote data processing and storage device is configured to define an execution environment to prevent access to any remote data processing and storage device resources except the data exchange stream and a predetermined amount of storage space.

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35. A system for remote data exchange and processing among computing devices according to claim 24 wherein said remote data processing and storage device is

configured to insure that any received input information originated with an intended data exchange infrastructure device.

36. A system for remote data exchange and processing among computing
5 devices according to claim 24 wherein said transmitter and receiver assembly is configured for operation within variable, predetermined displacements from any data exchange infrastructure devices.

37. A system for remote data exchange and processing among computing
10 devices according to claim 24 wherein said data exchange infrastructure device provides data exchange access for said remote data processing and storage device to an infrastructure device selected from a group consisting of equipment in the nature of a display, a keyboard, an audio device, a joystick, a haptic device, a tablet, and a mouse.

15 38. A system for remote data exchange and processing among computing devices according to claim 24 wherein said remote data processing and storage device is configured for operation in an environment including two or more remote data processing and storage devices.

20 39. A system for remote data exchange and processing among computing devices according to claim 24 wherein said data exchange infrastructure device is configured to define an execution environment to prevent access to any data exchange

infrastructure device resources except the data exchange stream and a predetermined amount of storage space.

40. A system for remote data exchange and processing among computing
5 devices according to claim 24 wherein said data exchange infrastructure device is configured to direct data exchange signals from one or more remote data processing and storage devices among a plurality of infrastructure devices.

41. A system for remote data exchange and processing among computing
10 devices according to claim 24 wherein said data exchange infrastructure device is configured to recognize signal details associated with an infrastructure device and to process said details in order to present a uniform interface signal for use by a remote data processing and storage device.

15 42. A system for remote data exchange and processing among computing devices according to claim 24 and further comprising a core data exchange infrastructure device for wireless, two-way data transfer communication with a dedicated remote data processing and storage device comprising:

a housing;

20 a power supply;

a memory for data storage disposed within said housing and in electrical communication with said power supply;

a processor for processing data and presenting said data for display;

a transmitter and receiver assembly disposed within said housing and in electrical communication with said power supply for electronic wireless data exchange;

a display for presenting data in a user recognizable format; and

an interface preprogrammed within said processor for two-way data
5 exchange communication with said remote data processing and storage device, said interface being in electrical communication with said display for presenting data from said remote data processing and storage device for a user.

43. A system for remote data exchange and processing among computing
10 devices according to claim 42 wherein said core data exchange infrastructure device display includes a screen having a graphic user interface presented thereon.

44. A system for remote data exchange and processing among computing
devices according to claim 42 wherein said core data exchange infrastructure device is
15 formed as a personal digital assistant.

45. A core data exchange infrastructure device for wireless, two-way data transfer communication with a dedicated remote data processing and storage device comprising:

20 a housing;

a power supply;

a memory for data storage disposed within said housing and in electrical communication with said power supply;

a processor for processing data and presenting said data for display;
a transmitter and receiver assembly disposed within said housing and in
electrical communication with said power supply for electronic wireless data exchange;
a display for presenting data in a user recognizable format; and
5 an interface preprogrammed within said processor for two-way data
exchange communication with said remote data processing and storage device, said
interface being in electrical communication with said display for presenting data from
said remote data processing and storage device for a user.

10 46. A core data exchange infrastructure device according to claim 45 wherein
said display includes a screen having a graphic user interface presented thereon.

47. A core data exchange infrastructure device according to claim 45 wherein
said device is formed as a personal digital assistant.

15 48. A computer data signal embodied in a carrier wave for interfacing remote
computing devices with data exchange infrastructure devices comprising:

computer-executable instructions for seeking a protocol announcing the presence
of one or more data exchange infrastructure devices

20 computer-executable instructions for detecting said protocol; and

computer-executable instructions for establishing two-way data exchange
communication with said at least one of said one or more data exchange infrastructure
devices.

49. A computer data signal according to claim 48 and further comprising computer-executable instructions for enhancing data security.

5 50. A computer data signal according to claim 48 and further comprising computer-executable instructions for encrypting data.

51. A computer data signal according to claim 48 and further comprising computer-executable instructions for verifying data.

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52. A computer data signal according to claim 48 and further comprising computer-executable instructions defining a virtual interface protocol for seeking, detecting and establishing two-way data exchange communication with at least one data exchange infrastructure device.

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53. A computer data signal according to claim 48 and further comprises computer-executable instructions for recognizing predetermined data stream structures and to encode the data stream for more efficient transmission.

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54. A computer data signal according to claim 48 and further comprises computer-executable instructions for defining an execution environment to prevent access to any remote data processing and storage device resources except the data exchange stream and a predetermined amount of storage space.

55. A computer data signal according to claim 48 and further comprises computer-executable instructions for insuring that any received input information originated with an intended data exchange infrastructure device.

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56. A computer-readable media storing computer-executable instructions for interfacing remote computing devices with data exchange infrastructure devices a comprising:

computer-executable instructions for seeking a protocol announcing the presence
10 of one or more data exchange infrastructure devices;

computer-executable instructions for detecting said protocol; and

computer-executable instructions for establishing two-way data exchange communication with said at least one of said one or more data exchange infrastructure devices.

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57. A computer-readable media according to claim 56 and further comprising computer-executable instructions for enhancing data security.

58. A computer-readable media according to claim 56 and further comprising
20 computer-executable instructions for encrypting data.

59. A computer-readable media according to claim 56 and further comprising computer-executable instructions for verifying data.

60. A computer-readable media according to claim 56 and further comprising computer-executable instructions defining a virtual interface protocol for seeking, detecting and establishing two-way data exchange communication with at least one data exchange infrastructure device.

61. A computer-readable media according to claim 56 and further comprises computer-executable instructions for recognizing predetermined data stream structures and to encode the data stream for more efficient transmission.

62. A computer-readable media according to claim 56 and further comprises computer-executable instructions for defining an execution environment to prevent access to any remote data processing and storage device resources except the data exchange stream and a predetermined amount of storage space.

63. A computer-readable media according to claim 56 and further comprises computer-executable instructions for insuring that any received input information originated with an intended data exchange infrastructure device.

64. A computer program embodied on a computer-readable media for interfacing remote computing devices with data exchange infrastructure devices comprising:

a code segment for seeking a protocol announcing the presence of one or more data exchange infrastructure devices;

a code segment for detecting said protocol; and

a code segment for establishing two-way data exchange communication with said
5 at least one of said one or more data exchange infrastructure devices.

65. A computer program according to claim 64 and further comprising a code segment for enhancing data security.

10 66. A computer program according to claim 64 and further comprising a code segment for encrypting data.

67. A computer program according to claim 64 and further comprising a code segment for verifying data.

15 68. A computer program according to claim 64 and further comprising a code segment defining a virtual interface protocol for seeking, detecting and establishing two-way data exchange communication with at least one data exchange infrastructure device.

20 69. A computer program according to claim 64 and further comprises a code segment for recognizing predetermined data stream structures and to encode the data stream for more efficient transmission.

70. A computer program according to claim 64 and further comprises a code segment defining an execution environment to prevent access to any remote data processing and storage device resources except the data exchange stream and a predetermined amount of storage space.

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71. A computer program according to claim 64 and further comprises a code segment for insuring that any received input information originated with an intended data exchange infrastructure device.

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72. A computer data signal embodied in a carrier wave for interfacing data exchange infrastructure devices with remote data processing and storage devices comprising:

computer-executable instructions for announcing a protocol directed to any remote data processing and storage devices within a predetermined range around said

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data exchange infrastructure device;

computer-executable instructions for being detected by remote data processing and storage devices; and

computer-executable instructions for establishing two-way data exchange communication with said remote data processing and storage devices.

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73. A computer data signal according to claim 72 and further comprising computer-executable instructions for enhancing data security.

74. A computer data signal according to claim 72 and further comprising computer-executable instructions for encrypting data.

75. A computer data signal according to claim 72 and further comprising
5 computer-executable instructions for verifying data.

76. A computer data signal according to claim 72 and further comprising computer-executable instructions for discriminating between signals from multiple remote data processing and storage devices.

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77. A computer data signal according to claim 72 and further comprising computer-executable instructions for preventing access to any data exchange infrastructure device resources except the data exchange stream and a predetermined amount of storage space.

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78. A computer data signal according to claim 72 and further comprising computer-executable instructions for directing data exchange signals from one or more remote data processing and storage devices among a plurality of infrastructure devices.

20 79. A computer data signal according to claim 72 and further comprising computer-executable instructions for recognizing signal details associated with an infrastructure device and to process said details in order to present a uniform interface signal for use by a remote data processing and storage device.

80. A computer-readable media storing computer-executable instructions for interfacing data exchange infrastructure devices with remote data processing and storage devices comprising:

5 computer-executable instructions for announcing a protocol directed to any remote data processing and storage devices within a predetermined range around said data exchange infrastructure device;

computer-executable instructions for being detected by remote data processing and storage devices; and

10 computer-executable instructions for establishing two-way data exchange communication with said remote data processing and storage devices.

81. A computer-readable media according to claim 80 and further comprising computer-executable instructions for enhancing data security.

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82. A computer-readable media according to claim 80 and further comprising computer-executable instructions for encrypting data.

83. A computer-readable media according to claim 80 and further comprising
20 computer-executable instructions for encrypting data.

84. A computer-readable media according to claim 80 and further comprising computer-executable instructions for discriminating between signals from multiple remote data processing and storage devices.

5 85. A computer-readable media according to claim 80 and further comprising computer-executable instructions for preventing access to any data exchange infrastructure device resources except the data exchange stream and a predetermined amount of storage space.

10 86. A computer-readable media according to claim 80 and further comprising computer-executable instructions for directing data exchange signals from one or more remote data processing and storage devices among a plurality of infrastructure devices.

15 87. A computer-readable media according to claim 80 and further comprising computer-executable instructions for recognizing signal details associated with an infrastructure device and to process said details in order to present a uniform interface signal for use by a remote data processing and storage device.

20 88. A computer program embodied on a computer-readable media for interfacing data exchange infrastructure devices with remote data processing and storage devices comprising:

a code segment for announcing a protocol directed to any remote data processing and storage devices within a predetermined range around said data exchange infrastructure device;

a code segment for being detected by remote data processing and storage devices;
5 and

a code segment for establishing two-way data exchange communication with said remote data processing and storage devices.

89. A computer program according to claim 88 and further comprising a code
10 segment for enhancing data security.

90. A computer program according to claim 88 and further comprising a code segment for encrypting data.

15 91. A computer program according to claim 88 and further comprising a code segment for verifying data.

92. A computer program according to claim 88 and further comprising a code segment for discriminating between signals from multiple remote data processing and
20 storage devices.

93. A computer program according to claim 88 and further comprising a code segment for preventing access to any data exchange infrastructure device resources except the data exchange stream and a predetermined amount of storage space.

5 94. A computer program according to claim 88 and further comprising a code segment for directing data exchange signals from one or more remote data processing and storage devices among a plurality of infrastructure devices.

10 95. A computer program according to claim 88 and further comprising a code segment instructions for recognizing signal details associated with an infrastructure device and to process said details in order to present a uniform interface signal for use by a remote data processing and storage device.

15 96. A method for commercially facilitating data use, exchange and processing comprising the steps of:

providing at least one remote data processing and storage device for wireless data exchange, said remote data processing and storage device including a transmitter and receiver assembly, a microprocessor and a virtual interface preprogrammed in said microprocessor with a protocol for seeking, detecting and
20 establishing two-way data exchange communication with at least one data exchange infrastructure device;

providing at least one data exchange infrastructure device for wireless data exchange with said at least one remote data processing and storage device including a

transmitter and receiver assembly and an interface assembly in electrical communication with said transmitter and receiver assembly, and preprogrammed for announcing a protocol directed to any remote data processing and storage devices within a predetermined range around said data exchange infrastructure device, being detected
5 thereby and establishing two-way data exchange communication therewith; and

charging a fee for users of said at least one remote data processing and storage device using said at least one data exchange infrastructure device.

97. A method for commercially facilitating data use, exchange and processing
10 according to claim 96 and further comprising the step of providing a core data exchange infrastructure device for wireless, two-way data transfer communication with a dedicated remote data processing and storage device, said core data exchange infrastructure device including a processor for processing data and presenting said data for display; a transmitter and receiver assembly disposed within said housing and in electrical
15 communication with said power supply for electronic wireless data exchange; a display for presenting data in a user recognizable format and an interface preprogrammed within said processor for two-way data exchange communication with said remote data processing and storage device, said interface being in electrical communication with said display for presenting data from said remote data processing and storage device for a
20 user.

98. A method for commercially facilitating data use, exchange and processing according to claim 96 and further comprising the step of using at least one data exchange

infrastructure device to coordinate and direct data signals among predetermined data exchange infrastructure devices and remote data processing and storage devices.

5 99. A method for commercially facilitating data use, exchange and processing according to claim 96 and further comprising the step of providing at least one data exchange infrastructure device configured to meter transmission channel usage and to allocate system resources in accordance with said metered transmission channel usage.

10 100. A method for commercially facilitating data use, exchange and processing according to claim 96 wherein said method includes the steps of conducting a commercial sales transaction using at least one data exchange device and at least one remote data processing and storage device; establishing a two-way data exchange; delivering a data product to a buyer using said two-way data exchange; and charging said buyer for said data product.

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 101. A method for commercially facilitating data use, exchange and processing according to claim 96 wherein said step of charging said buyer includes transferring payment using said two-way data exchange.

20 102. A method for commercially facilitating data use, exchange and processing according to claim 96 wherein said method includes the step of providing a security arrangement operatively associated with said data exchange infrastructure device.

103. A method for commercially facilitating data use, exchange and processing according to claim 96 wherein said step of providing a security arrangement includes providing a data verification arrangement.

5 104. A method for commercially facilitating data use, exchange and processing according to claim 103 and further comprising the step of charging a fee for utilization of said data verification arrangement.

105. A method for facilitating commercial sales transactions of data products
10 comprising the steps of:

 providing at least one remote data processing and storage device for wireless data exchange, said remote data processing and storage device including a transmitter and receiver assembly, a microprocessor and a virtual interface preprogrammed in said microprocessor with a protocol for seeking, detecting and
15 establishing two-way data exchange communication with at least one data exchange infrastructure device;

 providing at least one data exchange infrastructure device for wireless data exchange with said at least one remote data processing and storage device including a transmitter and receiver assembly and an interface assembly in electrical communication
20 with said transmitter and receiver assembly, and preprogrammed for announcing a protocol directed to any remote data processing and storage devices within a predetermined range around said data exchange infrastructure device, being detected thereby and establishing two-way data exchange communication therewith;

transferring a data product to a buyer using said two-way data exchange;
and
charging buyers for any data products obtained during two-way data exchange.

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106. A method for facilitating commercial sales transactions of data products according to claim 105 and further comprising the step of providing a core data exchange infrastructure device for wireless, two-way data transfer communication with a dedicated remote data processing and storage device, said core data exchange infrastructure device
10 including a processor for processing data and presenting said data for display; a transmitter and receiver assembly disposed within said housing and in electrical communication with said power supply for electronic wireless data exchange; a display for presenting data in a user recognizable format and an interface preprogrammed within said processor for two-way data exchange communication with said remote data
15 processing and storage device, said interface being in electrical communication with said display for presenting data from said remote data processing and storage device for a buyer.

107. A method for facilitating commercial sales transactions of data products
20 according to claim 105 and further comprising the step of using at least one data exchange infrastructure device to coordinate and direct data signals among predetermined data exchange infrastructure devices configured for distribution of data products and remote data processing and storage devices.

108. A method for facilitating commercial sales transactions of data products according to claim 105 wherein said step of charging said buyer includes transferring payment using said two-way data exchange.

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109. A method for facilitating commercial sales transactions of data products according to claim 105 wherein said method includes the step of providing a security arrangement operatively associated with said data exchange infrastructure device.

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110. A method for facilitating commercial sales transactions of data products according to claim 105 wherein said step of providing a security arrangement includes providing a data verification arrangement.

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111. A method for facilitating commercial sales transactions of data products according to claim 110 and further comprising the step of charging a fee for utilization of said data verification arrangement.